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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3152 (1980): Needle Files [PGD 5: Assembly Hand Tools]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



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Indian Standard

SPECIFICATION FOR
NEEDLE FILES

(First Revision)

Hand Tools Sectional Committee, EDC 12; Engineer's Files Subcommittee, EDC 12:5 [Ref : Doc : EDC 12 (2926)]

1. Scope — Covers requirements for needle files.

2. Nomenclature — For the purpose of this standard, the nomenclature shown in Fig. 1 and Table 1 shall apply.

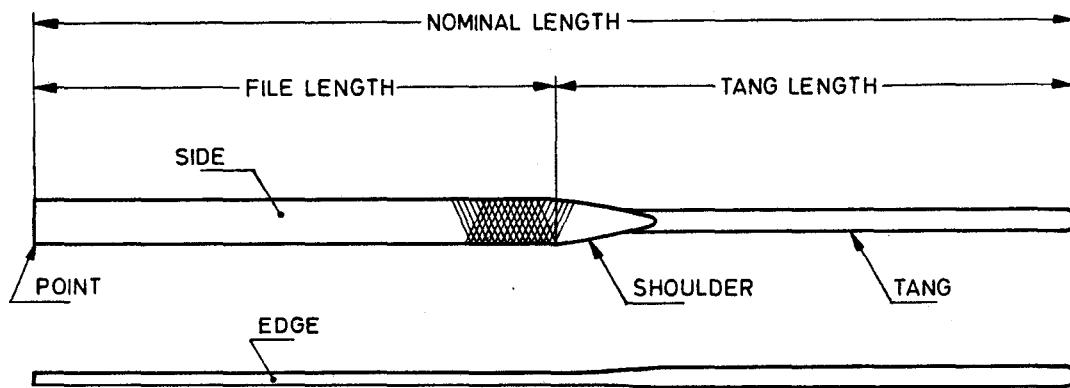


FIG. 1 NOMENCLATURE OF NEEDLE FILES

3. Types — The needle files shall be of the types shown in Table 1.

4. Dimensions — The shapes and dimensions of the needle files shall be as specified in Table 1. The tang length and file length shall be approximately the same.

5. Cuts — The number of cuts per centimetre shall be as given in Table 1.

5.1 The grades of cut may be identified by the cut number as follows:

Bastard	Cut 0
Smooth	Cut 2

6. Material — Steel conforming to Designation T118 or T133 of Schedule VI of IS : 1570-1961 'Schedules for wrought steels for general engineering purposes' with a maximum of 0.06 percent of phosphorus and sulphur each or a suitable alloy steel meeting the requirements laid down in 7 and 12.

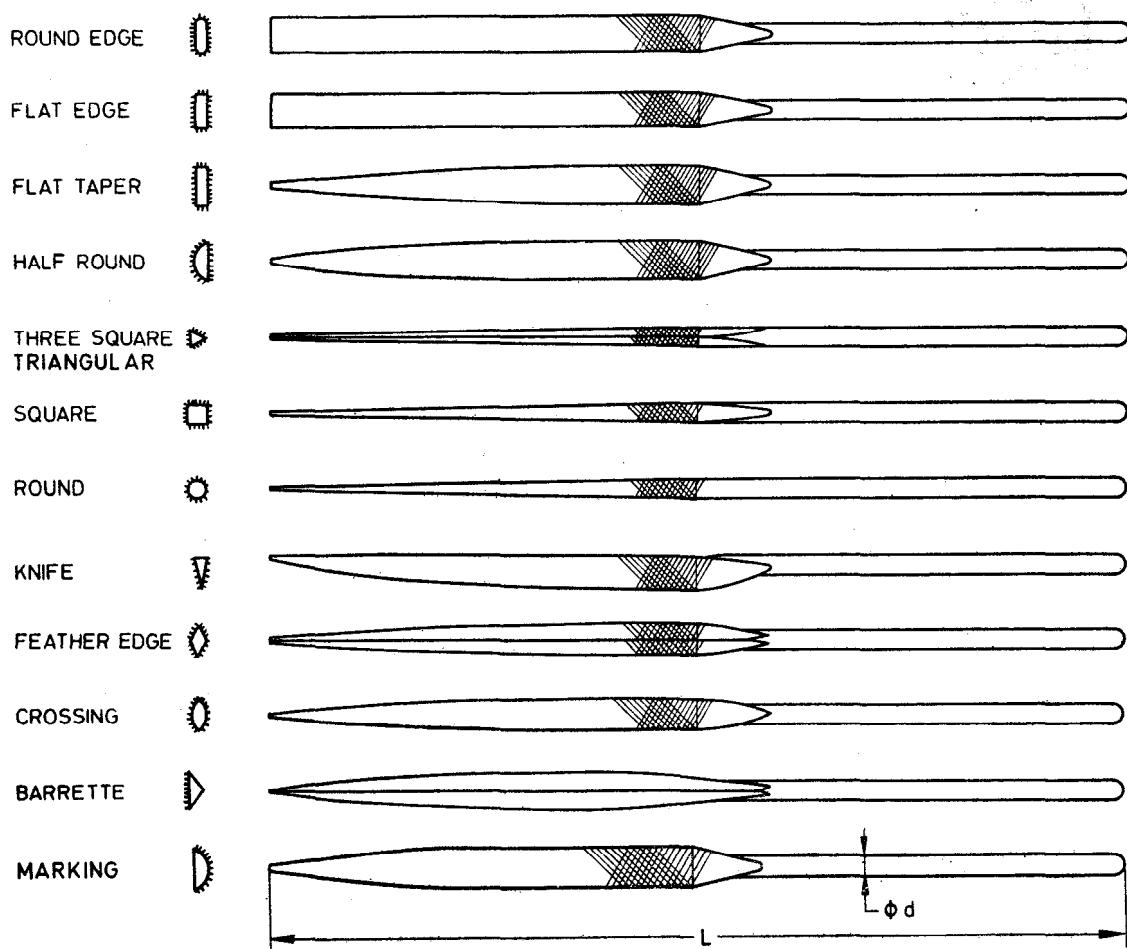
6.1 When alloying elements are used or case-hardening methods introduced, the percentage of carbon and/or manganese may be varied. In that case the chemical composition shall be as agreed to between the manufacturer and the purchaser.

7. Hardness — The needle files shall be evenly hardened and tempered. The hardness of the cutting portion of the needle files shall be within 660 to 700 HV (58 to 60 HRC approx.).

8. Requirements — The teeth on the sides and edges of the needle files shall be uniform and regular. When held near its middle and struck by a piece of steel, the file shall give a clear ringing sound.

9. Workmanship and Finish — The needle files shall be well-shaped and shall be reasonably straight. They shall be properly cleaned and shall not show cracks, scale, rust or other manufacturing defects.

TABLE 1 DIMENSIONS OF NEEDLE FILES
(Clauses 2, 3, 4 and 5)



Type	Nominal Length L mm	Tolerance on Nominal Length L mm	Tang Diameter d mm	Tolerance on Tang Diameter d mm	Number of Cuts/cm		Tolerance on Cuts, percent
					Bastard (Cut 0)	Smooth (Cut 2)	
All Types	120	± 4	2.40	± 0.20	20	31	± 10
	140	± 5	2.80	± 0.20	20	31	± 10
	160	± 6	3.20	± 0.20	20	31	± 10
	180	± 7	3.60	± 0.20	20	31	± 10

10. Designation — The designation of a needle file shall indicate:

- Commonly used name;
- Grade of cut;
- Nominal length L ; and
- Number of this standard.

Example:

A flat edge needle file with grade of cut bastard having nominal length $L = 160$ mm shall be designated as:

Flat Edge Needle File, Bastard 160, IS : 3152

11. Sampling — Unless otherwise agreed to between the supplier and the purchaser, the procedure given in IS : 2500 (Part I)- 1973 ' Sampling inspection tables: Part I Inspection by attributes and by count of defects (*first revision*) ', shall be followed for sampling inspection. For various characteristics the sampling plan as given in 11.1 and 11.2 shall be followed.

11.1 For inspection for dimensions, workmanship and finish, the sampling plan with inspection level III and acceptable quality level (AQL) 2.5 percent given in Tables 1 and 2 of IS : 2500 (Part I)- 1973 shall be followed.

11.2 For hardness and hand prover test, the sampling plan with AQL 2.5 percent given in Tables 1 and 2 of IS : 2500 (Part I)- 1973 shall be followed.

12. Hand Prover Test

12.1 The prover required for testing different needle files shall be made of rectangular bar and shall have a minimum hardness of 580 HV (54 HRC approx).

12.2 The prover shall be applied to the needle file at an angle of approximately 30° and drawn firmly over the needle file from point to shoulder using only sufficient pressure to make it bite. The needle file shall cut without any signs of slip, blunting or stripping of teeth. Any needle file that allows the prover to slip over any portion of its surface shall be rejected.

13. Marking — Each needle file shall be marked legibly and indelibly with the grade of cut (0 or 2) and the manufacturer's name, initials and/or trade-mark.

13.1 ISI Certification Marking — Details available with the Indian Standards Institution.

14. Preservative Treatment and Packing

14.1 It is recommended that the needle files be given a suitable rust preventive treatment before packing.

14.2 Unless otherwise agreed upon by the manufacturer and the purchaser, needle files shall be individually wrapped in waxed paper to avoid damage to the teeth and to protect them against corrosion. They shall then be packed in cardboard boxes, each box containing needle files of similar type, cut and length. Alternatively a box may contain a set of different types of needle files of same length and same cut. Boxes shall be labelled or marked to show the description, size and quantity in accordance with best trade practice.

E X P L A N A T O R Y N O T E

This standard was first issued in 1965. Its first revision has been taken up to incorporate modifications so as to bring the standard in line with the latest manufacturing practices. In this revision the following modifications have been made:

- a) Tolerances have been modified on the nominal length; tolerances of cuts and tang diameter have been added;
- b) Second cut has been deleted; and
- c) Nominal lengths have been modified and the dimensions for thin and extra thin roundshape needle files have been deleted.